

International Society for the History and Bibliography of Herpetology





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The **ISHBH** is a not-for-profit organization established to bring together individuals for whom the history and bibliography of herpetology is appealing and to promote the knowledge of related topics among members and the general public. Membership is open to anyone who shares the aims of the society.

Membership. The biennial fee is US \$30 (students US \$10, life membership US \$300). This fee includes a subscription to the society's biannual Newsletter and Bulletin. Members are encouraged to contribute with articles, news of meetings, hints on antiquarian trade, book reviews or participate in a literature exchange forum.

The society organizes seminars, visits to libraries, museums, research stations, etc. in connection with herpetological meetings with international participation. The society works to facilitate informal contacts among members so that the members can informally meet, offer support in knowledge and transact exchanges of literature and ephemera.

Formal application for membership shall be directed to the chairperson and should be addressed:

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About the cover

The frontispiece of this issue is a reproduction of a plate originally from *Encyclopædia Londinensis, or Universal Dictionary, &c., &c. Compiled, digested and arranged by John Wilkes, of Midland House, in the County of Sussex, Esquire; assisted by eminent scholars of the English, Scotch and Irish Universities*. The plate, dated July 30, 1803, depicts a flying dragon (*Draco* sp.) from southeast Asia with a leaf and flowers from a North American skunk cabbage in the background, and is further embellished with diagrams of a sea cucumber or sea lemon as it's referred to on the plate. This plate, the *Encyclopædia Londinensis*... and early descriptions of *Draco* species are discussed in more detail in Richard Wahlgren's article on page 20.

Instructions for Authors

Authors submitting a manuscript do so on the understanding that the work has not been published before and is not being considered for publication elsewhere. All manuscripts are peer reviewed. Each issue of the Newsletter and Bulletin of the ISHBH is submitted to BIOSIS (U.K.) so that articles can be indexed for inclusion in the Zoological Record.

All manuscripts should be submitted in electronic form and preferably in Rich Text Format (*.rtf). If the manuscript is sent as a text file it should be accompanied by a hard copy to clarify formatting. We prefer to receive manuscripts as an e-mail attachment but manuscripts may also be sent by post on a 3 1/2 inch diskette. Include exact details on name(s) of the author(s) and file(s) submitted (diskettes should be labeled with this information), as well as contact information. The language of the Newsletter and Bulletin is English. British English or American English spelling and terminology may be used, but either one should be used consistently throughout the article. *Continued on page 5...*

Society News

Message from the Chairperson

The society is now in the third year from its inception in July 1998 in Guelph, Canada. Rightly a very International association as there are members from Africa, Asia, Australia, Europe and North America, altogether 90 at the time when this issue went to print. I predicted in the first issue of the Newsletter (May 1999) that the society probably would stay rather small but with a cosmopolitan scope. The present membership widely exceeds my expectations of that time. The desire for a forum to the historical development of the herpetological discipline was obviously around. We can notice the growing awareness of the historical aspects elsewhere as well. A working group of DGHT in Germany on the history and literature of herpetology was set up earlier this year and Herpetological Review, the newsletter of the SSAR initiated a new permanent section "Herpetological History" with the first issue 2000.

Our society's inauguration and annual meetings have so far been on the North American continent albeit in three different countries. To reflect the International spread of the members it is time to find a meeting place elsewhere in the world. We therefore look forward to meeting in Europe next year to pursue the activities of our sphere of interest in conjunction with the 11th Ordinary General Meeting of the Societas Europaea Herpetologica that will be held in Slovenia in July 2001. Nevertheless, a social event and perhaps a paper session are also planned for the 2001 meeting of the SSAR and HL in Indianapolis, USA later in July.

The annual business meeting of the Society for 2000 was held at La Paz, Baja California, Mexico on 19th June with a dozen members plus guests attending the session and participating in the lunch gathering that followed. The Treasurer's report for 1999 shows that the financial position is healthy and it was approved (shown on p. 5).

The Executive Committee members were reelected for another two-year term (2000 and 2001).

Our logo has given reason to both praise and curiosity among many members. Thomas Madsen, a researcher in evolutionary ecology based in Australia and Sweden but a herpetologist and historian at heart contributed with his skills in drawing it. It is a composition of three original motifs. The lizard like animal with two hind legs and no forelegs appears in Jacob Theodore Klein's *Tentamen herpetologiae* (1755). Klein actually refers the origin of the animal to *Thesaurus animalium vivis coloribus egregie pictorum* but he does not state any obvious author to this book. The identity of the species remains a mystery even in the world of mythological animals. It is nevertheless a fitting source as it was Klein who minted the term herpetology and used it even in the title of his book that deals with snake and "worm" systematics. The size of the lizard on the plate in Klein's work (nose to tip of tail) is about 40 cm. Dr. Madsen has cautiously transposed the image getting it to resemble what would have been the case had anybody performed the exercise in those days. The process to reproduce figures before modern copying techniques were invented was first to engrave an identical drawing on a copper plate before the transposed copies eventually were printed on paper.

The snake with crown and the tongue formed like an arrow was replicated from Charles Owen's *An Essay towards a Natural History of Serpents* (1742). "The basilisk or Cockatrice, is a serpent of the Draconick Line" and "It is gross in Body, or fiery Eyes, and sharp Head, on which it wears a Crest, like a Cock's Comb". Owen says that it had the reputation of being the king of snakes however not because it wears a crown but "because of its majestic Pace, which

seems to be attended with an Air of Grandeur and Authority.” If it is another good choice to reflect the society’s image one can contemplate.

The book that lies open is Carolus Linnaeus’ (1762) *Amoenitates Academicae* volume 2, showing the title page to the thesis *Lignum colubrinum* that was defended by J. A. Darelius on snake and snakebites and especially on the medical properties of the Indian plant against poisoning. The sharp-eyed person can see a sinuous animal depicted on the leaf to the left. This belongs to the preceding article on *Taenia*, i.e. earthworms! **Richard Wahlgren**

ISHBH meeting in July 2000

The next meeting of the ISHBH will be held in conjunction with the 11th Ordinary General Meeting of Societas Europaea Herpetologica (SEH) in Zalec, Slovenia from 13 to 17 July, 2001. The ISHBH will be included in the program as an affiliated society and its business, social, and presentation sessions will be incorporated directly into the program so that all attendees can easily identify our activities. ISHBH members wishing more information may contact the meeting organizer, Mrs. Nusa Vogrin at milan.vogrin@guest.arnes.si. Additional information along with a preliminary registration form is available on the web at <http://www.zalec.si/radoziv/ogmseh>.

Members wishing to present a paper relative to the history or bibliography of herpetology should register for the SEH meeting and submit their abstracts using the format requested (see web site or contact Mrs. Vogrin). You should also provide a hard copy or e-mail attachment of your abstract to Aaron Bauer (aaron.bauer@villanova.edu), who will coordinate the ISHBH presentation session at the meeting. As we hope to use this opportunity to attract more European members to the society, all existing members who have original material to present are kindly requested to do so. A diverse assortment of

ISHBH papers will most accurately reflect to potential new members the broad scope of the interests of the society. **Aaron M. Bauer**

SEH Meeting announcement: 11th Ordinary General Meeting of Societas Europaea Herpetologica will be held 13 - 17 July 2001, in Zalec, Slovenia.

Organisers: Society for Bird Research and Nature Protection, Rače, and the Environmental Society Radociv, Zalec, in co-operation with the Declining Amphibian Population Task Force - Working Group Slovenia and the Faculty of Education, University of Maribor.

Venue: The 11th Ordinary General Meeting will take place in Zalec, the centre of the Savinja valley some 7 km west of the town of Celje. Zalec is the administrative, economic and cultural centre of the Lower Savinja valley. It is located about 70 km from the international airport of Ljubljana. Zalec is accessible from Ljubljana, Celje and Maribor by train or bus. The meeting will be held at the Hall of Culture in Zalec.

Provisional Programme: The conference will include a four-day scientific programme (oral presentations, workshops, poster sessions) and a 1 day mid-conference excursion. Participants are invited to offer to help organise one of the special workshops. The official language will be English.

Contributions and Publication: Both oral and poster presentations are welcome. A book of abstracts will be published before the conference. It is expected that the proceedings will be published in a journal.

Conference fee: The conference fee (presumably about 95 EURO) will cover registration, opening party, information booklet, conference programme, book of abstracts and proceedings, and coffee breaks. Conference fees may be paid by Mastercard/Eurocard, Visa, by check or by

bank transfer. Details regarding accommodation and meals will be available in the second (final) announcement. Different types of accommodation will be available (from hotels to camping sites).

Registration and Call for papers: The preliminary registration form, as well as more detailed and up-to-date information, can be found on the web page <http://www.zalec.si/radoziv/ogmseh/aplicat.htm>. The final announcement will be sent around mid winter. For even more information contact the meeting organiser, Mrs. Nusa Vogrin at milan.vogrin@guest.arnes.si or join the HerpNet - the herpetological network (HerpNet-subscribe@egroups.com).

Instructions for Authors

...continued from page 2.

Consult the latest issue of the Newsletter and Bulletin for article format. The Editor reserves the right to adjust style to maintain uniformity.

Illustrations should also be submitted in electronic form. Considering the often delicate nature of illustrations in antiquarian books we feel that it is best that the owner of the work makes arrangements for scanning. However, you should contact the Editor first for advice. Color illustrations can be included but incur extra costs which will be at the author's expense. Illustration files can be sent on a CD-ROM, 100 Mb Zip cartridge, a 3 1/2 inch diskette or transferred over the Internet (contact the Editor first). Hard copies may in certain cases be submitted to the Editor for scanning but the Editor must be contacted first. (Note: The ISHBH cannot take responsibility for material sent by post.)

Financial statements for the year ended 1999 (USD)

International Society for the History and Bibliography of Herpetology

Statement of Activities 1999

Expenses		Notes
Newsletter & Bulletin	745.12	1
Postage	220.10	1
Administration	207.52	
Exchange rate adj.	-1.58	2
Total costs	1,171.16	

Incomes		Notes
Membership dues	1,210.56	3
Total incomes	1,210.56	

Result 39.40

Statement of Financial Position 1999-12-31

Assets	
Bank holdings	1,502.54
Dues paid 2000	683.81
Total assets	2,186.35

Liabilities and net assets		Notes
Accrued expenses and other liabilities	936.39	
Membership dues for 2000	1,210.56	3
Result	39.40	
Total liabilities & net assets	2,186.35	

Ithaca 2000-05-26

Kraig Adler

Treasurer and Secretary

Notes

1. Included are expenses attributable to production and distribution of two issues.
2. Income and expenses in Swedish krona are represented in in USD at average of exchange. Receivables and liabilities have been valued at the rate prevailing 31 dec.
3. Membership dues have been proportioned between 1999 & 2000.

Other News

The Silent Auction of Joe Bailey's Herpetological Library on February 1, 2000

In the Newsletter and Bulletin 1 (2) we advised about the then forthcoming postal auction of the herpetological library of late Professor Joseph R. Bailey. The widow, Mrs. Mike Bailey had donated the library to the Society for the Study of Amphibians and Reptiles (SSAR) on the condition that the proceeds from the sale should be used to continue Joe's interests in society activities. The total amount realized from the auction was nearly US\$16,000. This sum will be placed in The Joseph R. Bailey Endowment, with income on this investment to be used to support student activities, book-length publication projects, and other activities in keeping with Joe Bailey's interests.

The silent auction consisted of 374 lots with a mixture of true fine and rare books, valuable textbooks and reprints of old classics. The auction was open to all. An International audience consisting of 84 persons participated (72 North America, nine Europe, one South America and two Australia) with a total of more than 1,600 bids, i.e. average of about 19 bids per individual or 4.2 bids per lot. Successful for at least one title were 79 out of the 84 bidding.

The bidder with the highest tender for each lot became the winner. On a floor auction you know the bids of the other bidders and just have to raise your bid with one usually fixed increment. In this auction the bidders were left to themselves to establish the value of the titles. To be almost sure to secure a title a bidder had to pick up the tab for a high tender even if the "market value" turns out to be less. But it was after all for a good cause.

Kraig Adler compiled the list with the realized prices and a little commentary to all bidders and it was for a while available on the Internet. We provide here a few annotations on the results of the auction.

There were quite a few bids in the \$300 bracket, the highest being #10 Evaristo Garcia (1896) *Los Ofidios Venenosos del Cauca*. Cali, Colombia, published by author with 14 plates of snakes and plants illustrated in color. It fetched \$360 with the second high bidder being very close. Some of the other titles in this range were #165 Louis Agassiz (1857) *Contributions to the Natural History of the U. S. of America*, volume I and II, with exquisite plates (see the front cover of the last issue of the ISHBH Newsletter and Bulletin) sold for \$350. Lot #149 John Edward Holbrook (1842) *North American Herpetology...* in the SSAR Patron's edition facsimile reprint (1976) realized \$330. It was printed in 110 copies and it appears very seldom on the market.

Just below, \$326, landed lot #343 comprising 50 large monographs and other papers (1924-1952) by L. M. Klauber including an almost complete set of the author's papers in the San Diego Natural History Museum and Zoological Society series, altogether about 2025 pages and numerous plates. Lot #160 T. Barbour and A. Loveridge (1928) *A Comparative Study of the Herpetological Faunae of the Uluguru and Usambara Mountains, Tanganyika Territory...*, published as a Memoir of the Museum of Comparative Zoölogy at Harvard College raised \$306 and #74 Eric Francis (1934) *The Anatomy of the Salamander* with the dust jacket intact is becoming a classic and attracted a bid for \$302. A reprint is auspiciously underway.

Some of the facsimile reprints published by SSAR appear to be getting scarce judging from the prices in this auction: #19 L. H. Bojanus (1819-1821) *Anatome Testudinis Europaeae* (SSAR 1970) fetched \$151 and #91 J. J. Tschudi (1838) *Classification der Batrachier* (SSAR 1967) \$50. They were published at \$25 and \$10 respectively.

Bargains were realized for some of the lots, which is good to remember should a similar

auction come up again. SSAR indeed encourages holders of herpetological libraries to donate them for this good cause when they are no longer needed. Lot #24 Mary C. Dickerson (1931) *The Frog Book* is a reprint of the 1906 edition that fetched \$10 only and \$21 was the high bid for #85 Tracey Storer (1925) *Synopsis of the Amphibia of California*. I would say that \$75 would be a fair market price for the latter. Bargains were also a good copy of the classic work by A. R. Wallace (1876) *Geographic Distribution of Animals*: volume I-II that raised only \$250 (lot #105) and #27 G. Jan (Milano 1863) *Elenco Sistematico Degli Ofidi Descritti e Designati per l'Iconografia Generale* at \$153. It is an important checklist of the snakes of the world that also accompanies his and F. Sordelli's immense *Iconographie* (1860-1881).

Some titles were popular: Six lots had 14 to 16 bids each, e.g. #154 A. do Amaral (1977) *Serpentes do Brasil* that had a highest bid of \$156.55 and #155 J. Campbell and W. Lamar (1989) *Venomous Reptiles of Latin America* that reached \$51.99.

The last lot I wish to mention is #172 H. A. Surface (1906-1913) consisting of four separate monographs on the herpetology of Pennsylvania bound in one volume. The bid was considerable, \$206 but it would certainly be difficult to obtain all four separately on the antiquarian market and probably not cheaper. Fourteen individuals were tendering on it.

Richard Wahlgren

Working Group of the DGHT (German Society for Herpetology and Herpetoculture) for the History of Herpetology and Herpetological Publications has been established.

On April 1, 2000 the working group for the history of herpetology and herpetological publications within the DGHT was established in Gersfeld, Germany. The official name is "AG Literatur und Geschichte der Herpetologie und Terrarienkunde (LGHT)". Some 34 persons were present of which 28 became members of the new working group. Beside the procedures necessary for the founding of the working group a programme with lectures took place.

The members of the managing committee were elected as follows: Chairman: Prof. Dr. Wolfgang Böhme, and Secretary: Dipl.-Biol. Thomas Wilms, both of the Zoologisches Forschungsinstitut und Museum A. Koenig in Bonn, and Treasurer: Andreas Brahm from the book company Chimaira in Frankfurt.

Membership in the working group is open to members of the DGHT. The next meeting will take place at the Forellenhof hotel, Altenfeld, 36129 Gersfeld/Röhn, Germany, from March 30 to April 1, 2001. For more information about the working group and the DGHT contact Thomas Wilms, Zoologisches Forschungsinstitut und Museum A. Koenig, Adenauerallee 160, DE-53113 Bonn, Germany (Wilms@Student.Uni-Kl.de).

Thomas Wilms

The *Symbolae Physicae* and the Herpetology of Hemprich and Ehrenberg's Expedition to Egypt and the Middle East

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Historical Background

One of the most significant early natural history expeditions sent out from Germany was that of Friedrich Wilhelm Hemprich (1796-1825) and Christian Gottfried Ehrenberg (1795-1876) to Egypt and the Middle East during the period 1820-1825. Both men had been students in Berlin and had studied under Martin Hinrich Lichtenstein, the director of the Zoological Museum of the Wilhelm-Friedrichs University. The Museum had been founded less than a decade before the expedition and Lichtenstein was anxious to increase its holdings, which to that point consisted chiefly of several large natural history collections that had been donated or purchased and smaller lots of specimens obtained from travelers and amateur naturalists. One approach employed by Lichtenstein was to encourage former students at the university to pursue work overseas or to undertake expeditions on behalf of the museum and the Prussian government. Hemprich and Ehrenberg's journey, along with that of Wilhelm Peters to Mozambique some 20 years later, were perhaps the most successful of such expeditions as far as the Zoological Museum was concerned.

Hemprich completed his formal studies in Berlin in 1818, although prior to this he had expressed an interest in the Museum and especially in herpetology, with a focus on snakes and other limbless squamates. In 1819 he was employed by Lichtenstein to work up the herpetological collections of the Zoological Museum (Stresemann 1954). This involved the

careful examination of all specimens, the identification of J.G. Schneider's types (based chiefly on material from the M.E. Bloch collection), the segregation of duplicate specimens, and, of course, the correct labeling of all material. Hemprich's work appears to be the basis for the earliest of the extant ZMB herpetological catalogues, the *Katalog Inventarium der Amphibien* (ca. 1822-23). At the same time he was teaching natural history to the Royal Cadette Corps. In association with the latter work he authored *Grundriß der Naturgeschichte* (1820), a general text that included a herpetological section. A second edition of this work (1829a) was published posthumously. The work for Lichtenstein also resulted in a manuscript, *Synopsis Serpentium*, which, although never published, was known to Fitzinger (1826), who cited Hemprich's classification. Hemprich also published two shorter posthumous papers (1829b, c), which appeared in the first volume of the *Verhandlungen der Gesellschaft Naturforschender Freunde zu Berlin*.

Ehrenberg, a friend of Hemprich's, was particularly interested in the "infusoria" and after his return from the expedition had a long and successful career as a microbiologist. Indeed Ehrenberg was a leading figure in the scientific life of Berlin throughout the third quarter of the 19th Century. Unlike Hemprich, he had little professional interest in herpetology and aside from the posthumously published plates of the *Symbolae Physicae* (see below) he appears to have published only a few short notes relating to salamanders (e.g., Ehrenberg 1836, 1859, 1870).

Hemprich and Ehrenberg's expedition was supported by both the Prussian government and the Prussian Academy of Sciences, to the sum of approximately 23,000 Thaler. The two left Germany in July 1820 for Trieste and thence to Egypt. Although the bulk of their time was spent in Egypt, they also collected in the modern Sudan, Lebanon, Saudi Arabia, and Eretria (the Dahlak Archipelago). Napoleon's expedition to Egypt (1798-1801), although primarily military, had also collected a great deal of scientific information, some of which had been published within a decade of the French withdrawal from the region. This helped to stimulate interest in Egypt itself, and in the areas of North Africa and the Middle East for which Egypt was a gateway. Indeed, Hemprich and Ehrenberg were in Egypt at the same time as Eduard Rüppel (1794-1884), whose own North African/Middle Eastern expedition spanned the years 1822 to 1825, and the two expeditions crossed paths in Alexandria.

The expedition had a tragic conclusion, as Hemprich died in Cairo in 1825. However, in terms of specimen collection, the mission was a success. In total, the expedition sent back to Germany over 46,000 plant specimens and 34,000 animals. The animals represented almost 4000 different species. Of these 436 specimens were amphibians and reptiles, representing 120 species (Stresemann 1954). These collections were catalogued in the Zoological Museum (ZMB, now Museum für Naturkunde) by Lichtenstein. Unfortunately, although Hemprich and Ehrenberg's letters and packing invoices noted in some detail the time and place where specimens were seen or collected (Stresemann 1954), Lichtenstein characteristically recorded only very rough localities (e.g., Ägyptien, Nubien) for the specimens (Bauer et al. 1995). He also included material from the expedition in several of the sale catalogues of duplicate specimens he published in order to raise money for the museum.

Publications on Hemprich and Ehrenberg's Collections

Lichtenstein (1823), in his first major duplicate catalogue, listed numerous herpetological specimens from Egypt and Nubia, nearly all of which were derived from Hemprich and Ehrenberg's collections that had arrived in Berlin by early 1823 (Stresemann 1954). Among these were (using Lichtenstein's names): *Testudo graeca*, *Crocodylus niloticus* eggs, *Monitor niloticus*, *Mon[itor] scincus*, *L[acerta] Boskiana*, *U[romastix] spinipes*, *Stellio vulgaris*, *G[ecko] fascicularis*, *G. lobatus*, *Chamaeleo africanus*, *Sc[incus] variegatus* var. *ocellatus*, *Sc. brachypus*, *Bufo viridis*, *B. fuscus*, and *B. cinereus*.

Also listed were several new species based on the expedition's material: *L[acerta] Pardalis*, *L. grammica*, *L. rubropunctata*, *L. guttulata*, *A[gama] deserti*, *A[scalabotes] sthenodactylus*, *Sc[incus] quinquetaeniatus*, and *Uromastix ocellatus*, all of which had type localities no more specific than "Aegyptus" or "Nubia." At least six of these new taxa were based on specimens collected 1820-21 and sent in the third shipment of specimens from Egypt (Stresemann 1954). Most of the new names coined by Lichtenstein were taken directly from Hemprich's notes and, despite the vague published type localities, nearly all of the specimens had reached Berlin with fairly precise collection data. Lichtenstein's *Ascalabotes sthenodactylus* was based on Hemprich's manuscript name *Gecko sthenodactylus* and was collected "sub lapidibus ad Tscheile [el Achterieh] et Abusiris." *Agama deserti* was from "prope Gasr es Taebi," and *Lacerta pardalis* was found at "Tscheile" and "prope Alexandriam vulgaris, Decembri lecta." *Lacerta rubropunctata* occurred "in deserto aridissimo inter Sivam et Gasr es Taebi," whereas the types of *Lacerta guttulata* were collected at "Tscheile et Siva," and *Scincus quinquetaeniatus* was noted as being "prope Tscheile in junceti non infrequen."

The ninth and tenth shipments (collected 1823–1825) from the expedition, arrived too late for inclusion in Lichtenstein’s catalogue, but yielded the type material for new taxa from North Africa and the Middle East described by others over a period of almost 60 years: *Amystes Ehrenbergii* Wiegmann 1835, *Acanthodactylus dorsalis* Peters 1869, *Euprepes libanoticus* Peters 1864, *Scincus meccensis* Wiegmann 1837, *Euprepes pyrrhocephalus* Wiegmann 1837, *Rana ehrenbergi* Peters 1863, *Scincus hemprichii* Wiegmann 1837, *Euprepes brevicollis*, *Pristurus longipes* Peters 1871, and *Rana abyssinica* Peters 1881.

Although Lichtenstein described no more of the material after 1823, many of the specimens that had arrived in Berlin in the 1820’s were still being listed in his last duplicate catalogue, the *Nomenclator Reptilium et Amphibiorum* (Lichtenstein and von Martens 1856) thirty years later. Specimens of the following taxa, as listed in the *Nomenclator*, had come from the countries visited by Hemprich and Ehrenberg, and most of the duplicates being offered probably derived from the expedition: *Trionyx aegyptiacus*, *Testudo marginata*, *Chamaeleon vulgaris*, *Platydictylus mauritanicus*, *P. aegyptiacus*, *Hemidactylus verruculatus*, *Pyrodactylus Hasselquistii*, *Gymnodactylus flavopunctatus*, *G. scaber*, *Stenodactylus guttatus*, *Psammosaurus arenarius*, *Varanus niloticus*, *Agama agilis*, *A. sanguinolenta*, *A. straminea*, *A. mutabilis*, *A. sinaita*, *Stellio vulgaris*, *Uromastix ocellatus*, *U. spinipes*, *U. acanthinurus*, *Lacerta ocellata*, *Ophiops elegans*, *Acanthodactylus vulgaris*, *A. scutellatus*, *A. Savignyi*, *A. Boskianus*, *Eremias rubropunctata*, *E. guttulata*, *E. pardalis*, *Scincus officianlis*, *Sphenops capistratus*, *Gongylus ocellatus*, *Euprepes Cocteauui*, *E. vittatus*, *E. quinquetaeniatus*, *E. septentaeniatus*, *Plestiodon auratum* var. *pavimentatus*, *Ablepharus pannonicus*, *Eryx thebaicus*, *Tropidonotus natrix*, *T. tessellatus*, *T. hydrus*, *Rhachiodon abyssinicus*, *Periops parallelus*, *Zamenis florulentus*, *Psammophis sibilans*, *Lycognathus cucullatus*, *Coelopeltis accertina*, *Naja haje*,

Echis arenicola, *Cerastes aegyptiacus*, *Hyla arborea*, *Rana cutipora*, *Rana oxyrhyncha*, *Bufo calamita*, *B. pantheriuns*, *Salamandra maculosa*, *Chelonia virgata*, *C. maculosa*, and *C. Dussumieri*.

The *Symbolae Physicae*

The death of Hemprich left Ehrenberg alone to deal with the preparation of the written summaries of the expedition and their publication. His intention was to use the monetary support of the state to publish both the narrative portion of the results and the natural history contributions in short order after his return. Ehrenberg’s initial plan (Stresemann 1954) was to publish the natural history in a series of four parts consisting of the descriptive zoology of the expedition, including anatomy and physiology, illustrations of new animal species collected on the trip, along with associated short text, descriptive botany, and illustrations of plant discoveries of the expedition, with short accompanying text. Unfortunately, Hemprich’s death, the publication of other expedition results from the same geographical regions, a lack of expertise for some of the groups collected, and other events in the scientific community of Prussia, and the University in particular, stymied Ehrenberg’s original plans. The narrative, or historical part of the work was published in a timely fashion (Ehrenberg 1828), but of the natural history section, the illustrations and accompanying short texts were all that were ever issued, under the general title of *Symbolae Physicae*.

The *Symbolae Physicae* is confusing for several reasons. Its various parts were published over a period of 72 years from 1828 (or possibly 1827) to 1900. The parts were originally issued in decas (decades) of ten plates each, and each decade was issued unbound in portfolios (boards with ribbon ties). Many institutional copies of the work have been bound and information from the boards in some cases differs from that of the associated text title page. The boards are generally dated, but these dates do not

necessarily correspond to the actual publication dates of all or, in some cases, any of the associated text or plates.

Four zoological parts (divided into Zoologica I - vertebrates and Zoologica II - invertebrates) of the *Symbolae Physicae* were published during Ehrenberg's lifetime: I. Mammalia, II Aves, III. Insecta, and IV. Animalia evertebrata. Ehrenberg himself wrote the text accompanying parts I, II, and IV, but the entomological sections were compiled by Johann Christoph Friedrich Klug (1775-1856) and edited by Ehrenberg.

The part of the work concerning mammals (I. Mammalia. Decas prima-secunda) includes 81 pages of text and 20 colored plates. The complete title and details of the work are given on both the title page and boards as:

Symbolae physicae, seu Icones et descriptiones corporum naturalium novorum aut minus cognitorum, quae ex itineribus per Libyam, Aegyptum, Nubiam, Dongalam, Syriam, Arabiam et Habessiniam publico institutis sumptu Friderici Guilelmi Hemprich et Christiano Godofredi Ehrenberg medicinae et chirurgiae doctorum, studio annis MDCCCXX-MDCCCXXV redierunt. Regis iussu et impensis Dr. C. G. Ehrenberg. Berolini, ex Officina academica, venditur a Mittler.

Based on information published in the *Catalogue of the Books, Manuscripts, Maps and Drawings in the Collection of the British Museum (Natural History)* (1904) and on examination of several copies of the work, the mammalian part of the *Symbolae Physicae* was published in installments beginning in 1828 (the date of the covers of the first of the two decas) and continuing to October 1832 (the date of the covers of the second decas is 1830). The bird section (II. Aves. Decas prima) consists of 32 pages of text and 10 colored plates. The individual text signatures of this part are dated 1832 and 1833, but the boards are dated 1828. The five parts making up the insect section (III. Insecta. Decas prima-quinta) were published over the period 1829-1845. The text was issued with the title:

Symbolae physicae, seu Icones et descriptiones insectorum, quae ex itinere per Africam borealem et Asiam occidentalem Friderici Guilelmi Hemprich et Christiani Godofredi Ehrenberg studio novae aut illustratae redierunt. Percensuit Dr. Fr. Klug. Regis iussu et impensis C.G. Ehrenberg.

The plates were issued in boards bearing the somewhat different form:

Symbolae physicae, seu Icones et descriptiones Insectorum, quae ex itineribus per Libyam, Aegyptum, Nubiam, Dongalam, Syriam Arabiam et Habessiniam publico institutis sumptu Friderici Guilelmi Hemprich et Christiano Godofredi Ehrenberg medicinae et chirurgiae doctorum, studio annis MDCCCXX-MDCCCXXV redierunt. Percensuit Fr. Klug. Regis iussu et impensis editit Dr. C. G. Ehrenberg.

In all, there are 93 pages of text and five decades of plates. In this section of the work individual signatures were not dated, and presumed dates of publication correspond to the dates on the boards of the plate portfolios: dec. I. 1829. 17 pp. text, 10 pls.; dec. II. 1830. 12 pp. text, 10 pls.; dec. III. 1832. 22 pp. text, 10 pls.; dec. IV. 1834. 21 pp. text, 10 pls.; dec. V. 1845. 21 pp. text, 10 pls.

Likewise the invertebrate portion of the work bears two different titles. That of the text title page is:

Hemprich et Ehrenberg Symbolae Physicae. Animalia evertebrata, exclusis Insectis, percensuit D. C.G. Ehrenberg. Series prima; continent Animalia africana et asiatica.

The plates, on the other hand, were issued in boards with the title:

Symbolae physicae, seu Icones et descriptiones animalium evertebratorum, sepositis insectis, quae ex itineribus per Libyam, Aegyptum, Nubiam, Dongalam, Syriam Arabiam et Habessiniam publico institutis sumptu Friderici Guilelmi Hemprich et Christiano Godofredi Ehrenberg medicinae et chirurgiae doctorum,

studio annis MDCCCXX-MDCCCXXV redierunt. Regis iussu et impensis editit Dr. C. G. Ehrenberg.

This section (IV. Animalia evertebrata. Decas prima) includes 64 pages of text and 10 plates. The signatures are not dated, but the covers are dated 1828. The plates were published in 1828 and the text in 1831.

Thus, between 1828 and 1845, four parts including among them nine decades of plates, had been issued. However, numerous additional plates had been prepared but never issued, chiefly because no text had ever been prepared for them. As time went on the impetus to publish the plates must have decreased even further, as many species that would have been new to science if described in the late 1820's or early 1830's, had subsequently been given names by other authors. As a consequence, most "new names" proposed in the unpublished parts of the *Symbolae Physicae* would have been junior synonyms immediately upon publication. Nonetheless, in 1899, long after Ehrenberg's death, and fully 74 years after the completion of the expedition, the remaining zoological plates, along with text written by experts on each taxonomic group, were published. The full title and publishing details of this later work are:

Symbolae physicae, seu Icones adhuc ineditae corporum naturalium novorum aut minus cognitorum, quae ex itineribus per Libyam, Aegyptum, Nubiam, Dongalam, Syriam, Arabiam et Habessiniam publico institutis sumptu Friderici Guilelmi Hemprich et Christiano Godofredi Ehrenberg medicinae et chirurgiae doctorum, studio annis MDCCCXX-MDCCCXXV redierunt. Publico usui obtulerunt O. Carlgren. F. Hilgendorf. E. v. Martens. P. Matschie. G. Tornier. W. Weltner. Zoologica. Sumptibus Georgii Reimeri, Berolini. 17 pp. text, 32 plates.

This title appears on the title page of the text and also on the boards accompanying at least some copies of the plates (see below).

The publishing history of the botanical section of the *Symbolae Physicae* is also confusing. Harvard University's catalogue lists the following work:

Ehrenberg, C.G. 1828. *Symbolae physicae; seu Icones et descriptiones plantarum cotyledonearum quae ex itinere per Africam borealem et Asiam occidentalem* F.G. Hemprich et C.G. Ehrenberg novae aut illustratae redierunt.

This consists of 24 botanical plates (23 colored) with no accompanying text. These same 24 plates, along with 65 pages of text by C. Schumann were published together in 1900 as:

Symbolae physicae, seu Icones adhuc ineditae corporum naturalium novorum aut minus cognitorum, quae ex itineribus per Libyam, Aegyptum, Nubiam, Dongalam, Syriam, Arabiam et Habessiniam publico institutis sumptu Friderici Guilelmi Hemprich et Christiano Godofredi Ehrenberg medicinae et chirurgiae doctorum, studio annis MDCCCXX-MDCCCXXV redierunt. Publico usui obtulit C. Schumann. Botanica. Sumptibus Georgii Reimeri, Berolini. 65 pp., 24 pls.

This botanical part of the work completed the publication of the plates originally prepared on the basis of Hemprich and Ehrenberg's expedition.

A recent description of a partial set of the insect part offered for sale reflects the state of confusion regarding the *Symbolae Physicae*. It states "part of a seven part series, published between 1828 and 1834, treating the fauna of those regions. The first two volumes are dedicated to birds, the next discusses mammals, and the last four cover insects. A fifth volume on insects was added in 1845." In fact, of the nine (not seven) parts (decas) published during Ehrenberg's lifetime, the first two parts were on mammals, a third was on birds, five dealt with insects and one with other invertebrates. At least three additional parts were issued posthumously in 1899 (see below), completing the zoology of Hemprich and Ehrenberg's voyage, and a botanical section was published in 1900.

The *Symbolae Physicae* of 1899

The foreword to the 1899 *Symbolae Physicae*, dated October 1899, explains that the 32 plates of this part had been completed under Ehrenberg's direction but had never been published. These include 9 plates of mammalian osteology, one plate of avian osteology, 4 reptile plates, 10 fish plates, 3 fish anatomical plates, one mollusk plate, one anatomy of madrepor plate and three plates on the systematics and anatomy of actinarians and zoantherians.

My copy of the 1899 *Symbolae Physicae* was obtained in two portfolios, each with four blue ribbon ties. One cover bears the title:

Symbolae physicae, seu icones et descriptiones piscium qui ex itinerer per Africam Borealem et Asiam Occidentalem, Friderici Guilelmi Hemprich et Christiano Godofredi Ehrenberg medicinae et chirurgiae doctorum, studio novi aut illustrati redierunt. Percensuit et Regis iussu et impensis edidit Dr. C. G. Ehrenberg. Decas Prima. Berolini ex Officina Adademica. Venditur a Mittlerlo. MDCCCXXVII.

This contains the 10 colored fish plates. Only the first of these has a date indicated (1827). All plates, however, are consistent in style, quality, and coloring with those plates known to have been published during the late 1820s and early 1830s. Clearly the covers for the ichthyological decade of plates had been prepared at the same time as the first plates.

The remaining parts of my own copy of the *Symbolae Physicae* are associated with boards with the title:

Symbolae physicae, seu icones et descriptiones zootomicorum qui ex itinerer per Africam Borealem et Asiam Occidentalem, Friderici Guilelmi Hemprich et Christiano Godofredi Ehrenberg medicinae et chirurgiae doctorum, studio novi aut illustrati redierunt. Percensuit et Regis iussu et impensis edidit Dr. C. G. Ehrenberg. Decas Prima. Berolini ex Officina Adademica. Venditur a Mittlerlo. MDCCCXXVII.

The rear board of this portfolio indicates that it was initially associated only with the first 10 anatomical plates (eight of mammal skeletons and two of fish viscera). When purchased, however, this portfolio contained these plus the additional 12 non-fish plates the much later (1899) text. I have not seen a portfolio specifically associated with the remaining 12 plates, nor is it likely that one was ever prepared, as these constituted a miscellaneous collection of subjects, rather than the ten plates, all on a single subject, typical of each of the published decades of plates released in the 1820's and 1830's. The text itself consists of the title page (title indicated above), foreword (two unnumbered pages), and explanatory text. The text for "Mammalia und Aves," on pages 1-2 was authored by P. Matschie; that on "Reptilia" (pp. 3-5) by G. Tornier; "Pisces" (pp. 7-10) by F. Hilgendorf; "Mollusca" (pp. 11-12) by E. von Martens; "Actiniaria und Zoantharia" (pp. 13-16) by O. Carlgren; and "Madreporaria" (p. 17) by W. Weltner.

A number of larger libraries possess copies of the 1899 zoological portion of the *Symbolae Physicae*. These include the Academy of Natural Sciences, Philadelphia, the University of Kansas, McGill University, Museum für Naturkunde, Humboldt-Universität zu Berlin, and The Natural History Museum, London. Wood (1931) lists the pagination of the McGill copy of the *Symbolae Physicae* as [4] + 65 + 24 pl., but this is clearly in error for the botanical volume.

The reptile plates all bear the indication "Zoologica I. Amphibia." None are dated and three of the four plates (I, IV, V) are colored. The invertebrate plates are all labeled "Zoologica II." "Mollusca pl. III" is uncolored, as are the single madrepor plate "Phytozoa, pl. XI" and one of the coral plates, "Phytozoa pl. IX." The remaining two coral plates (VII and VIII) are colored. The anatomical plates all are simply marked "Zoologica," plates I-VII are mammal osteology, VIII-X are fish anatomy, XI is bird osteology, and XIII-XIV are again mammal osteology and all are uncolored. The

accompanying text verifies that these plates constitute the complete work and that only the fish plates, three of the four reptile plates and two of the three coral plates should be colored. None of these plates has a date associated with it. All plates measure approximately 34 x 50 cm and, in my copy, are untrimmed.

The dating of the reptile section (and others published in 1899 and 1900) is somewhat problematic. It is clear that the plates and associated covers (at least for the fish, zootomicorum, and botanical sections) were prepared in the late 1820's. Harvard University's bibliographic notation suggests that the plant plates were indeed published in 1828 without the text. However, the animal sections may not have been. Eschmeyer (1998) has credited the fish names therein to Hilgendorf in Hemprich & Ehrenberg 1899 (*Salarias ornatus*) or as Hemprich & Ehrenberg 1899 (*Lamna ecarinata*, *Labrus radiatus*, *Gymnorhinus pharaonis*, *Carcharias taeniatus*, *Carcharias aaronis*). Most of the names are unavailable as Hilgendorf's text presents the names in synonymy only (a consequence in most cases of the long period between the first preparation of the plates and choice of names and the actual publication of the work). Only one of the fish, *C. taeniatus*, has been interpreted as available as published in the work, although it is regarded as a junior subjective synonym of *Carcharias sorrah* (Müller and Henle 1839). Eschmeyer (1998) refers to the *Symbolae Physicae* as "a posthumous series of plates" and indicates a total of 31 plates (instead of the actual 32 found in complete sets). It is unclear, however, if the plates themselves were published posthumously, as the dated boards indicate an 1827 date. At present it is unclear whether this decade of plates was in fact released in 1827, without text, or (as is implied by Eschmeyer's statement) if the finished plates and portfolios, although printed, were not actually published until the associated text was completed 72 years later. The issue has relevance for fish nomenclature as a number of names used on the plates would have temporal priority over the currently used names.

The issue of date of publication of the reptile plates is somewhat clearer, as there is no indication that the four plates were released in any of the decas portfolios prior to 1899. The plates of the reptile section were certainly printed and colored within a few years of Ehrenberg's return from the field. As noted by Tornier (1899), Wiegmann (1837) and Peters (1864) both specifically cited material from reptile plates IV and V of the *Symbolae Physicae*. As they were associated with the Zoological Museum in Berlin, however, it is likely that they would have had access to the unpublished plates. No other 19th Century herpetologists appear to have referenced the work prior to its "formal" publication in 1899. Indeed the work has rarely been cited since, and remains virtually unknown among herpetologists today. No separate boards for the reptile plates were apparently prepared (or at least I have seen none). However, portfolio boards bearing the same title (including the new authors) as the 1899 text were printed. The copy in the ZMB library in Berlin is in such a portfolio, but only "Zoologica" is printed on it, rather than any specific group names. This was published, as was the new text, by Georg Reimer, whereas the earlier covers, plates and text were published by Mittler.

The text of the reptile section, written by Gustav Tornier, consists entirely of figure legends to the accompanying plates. Tornier provided then current names corresponding to each of the names on the plates. These correspondences, along with modern equivalents are presented in Table 1. Tornier also indicated the number of the original specimens then present in the ZMB collection and briefly commented on specific references to the plates by Wiegmann and Peters. No new names were proposed by Tornier, as all of the species figured had been formally published by earlier authors.

Unfortunately, the excellent reptile plates of the *Symbolae Physicae* are virtually unknown to modern herpetologists. This appears to be the result of 1) the fact that no new valid names appear in the work, 2) the bibliographic con-

Table 1. Correspondence between lizard plate names in the *Symbolae Physicae*, Tornier's (1899) names, and current names. The form of the plate names and Tornier's citations follow the originals exactly.

Plate, Fig.	Plate Name	Tornier (1899)	Current Name
Pl. 1	<i>Psammosaurus arabicus</i>	<i>Varanus griseus</i>	<i>Varanus griseus</i> (Daudin 1803)
Pl. 2, Fig. 1	<i>Lacerta guttulata</i>	<i>Eremias guttulata</i>	<i>Mesalina guttulata</i> (Lichtenstein 1823)
Pl. 2, Fig. 2	<i>Lacerta pardalis</i>	<i>Acanthodactylus pardalis</i>	<i>Acanthodactylus pardalis</i> (Lichtenstein 1823)
Pl. 2, Fig. 3	<i>Lacerta platyura</i>	<i>Acanthodactylus tristrami</i>	<i>Acanthodactylus tristrami</i> (Günther 1864)
Pl. 2, Fig. 4	<i>Lacerta scutellata</i>	<i>Acanthodactylus scutellatus</i>	<i>Acanthodactylus scutellatus</i> (Audouin 1809)
Pl. 2, Fig. 5	<i>Lacerta longicauda</i>	<i>Acanthodactylus boskianus</i>	<i>Acanthodactylus boskianus</i> (Daudin 1802)
Pl. 4, Fig. 1	<i>Scincus Hemprichii</i>	<i>Scincus hemprichii</i> Wiegmann	<i>Scincus hemprichii</i> Wiegmann 1837
Pl. 4, Fig. 2	<i>Scincus officianalis</i>	<i>Scincus officianalis</i> Laurenti	<i>Scincus scincus</i> (Linnaeus 1758)
Pl. 4, Fig. 3	<i>Scincus meccensis</i>	<i>Scincus meccensis</i> Wiegmann	<i>Scincus scincus meccensis</i> Wiegmann 1837
Pl. 4, Fig. 4	<i>Scincus pavimentatus</i>	<i>Eumeces schneideri</i> Daudin	<i>Eumeces schneiderii</i> (Daudin 1802)
Pl. 5, Fig. 1	<i>Euprepes pyrrhocephalus</i>	<i>Mabuia brevicollis</i>	<i>Mabuya brevicollis</i> (Wiegmann 1837)
Pl. 5, Fig. 2	<i>Euprepes brevicollis</i>	<i>Mabuia brevicollis</i>	<i>Mabuya brevicollis</i> (Wiegmann 1837)
Pl. 5, Fig. 3	<i>Euprepes massauensis</i>	<i>Mabuia septemtaeniata</i>	<i>Mabuya aurata septemtaeniata</i> (Reuss 1834)
Pl. 5, Fig. 4	<i>Euprepes Tomardi</i>	<i>Mabuia vittata</i> (Peters) ¹	<i>Mabuya vittata</i> (Olivier 1804)
Pl. 5, Fig. 5	<i>Sphenops capistratae</i>	<i>Chalcides sepoides</i> Aud.	<i>Sphenops sepoides</i> (Audouin 1829)

¹Tornier attributed this name to Peters. In fact, Peters named *Euprepes vittatus* var. *australis*, now recognized as the southern African *Mabuya occidentalis*.

fusion over the *Symbolae Physicae*, and 3) the general rarity of the work in libraries. Had Hemprich survived the expedition, it is likely that he would have overseen the herpetological section of the work, and that taxa subsequently described by Wiegmann and others would have instead been published first in Hemprich and Ehrenberg's expedition results. It is also possible that a much larger proportion of the specimens would have been reported on, thereby drawing attention to the scope of the collections. Had this occurred the expedition would have undoubtedly received recognition as one of the most important herpetological journeys of the early 19th Century.

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Herpetological contributions of Edward Bartlett (ca. 1836-1908), pioneering herpetologist in Borneo

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Edward Bartlett (ca. 1836-1908) was the second Curator of the Sarawak Museum, Kuching between 1895-97, succeeding George Darby Haviland (1857-1901), and preceding Robert Walter Campbell Shelford (1872-1912). Nothing is known of his early life, except that he was presumably from England, and by May 1887, had taken up position of Superintendent of the London Zoo. Some correspondence between George Albert Boulenger (1858-1937), of the British Museum, Natural History, London, on the herpetology of Borneo did take place (see Wahlgren, 1999). Besides adding to the zoological collections of the museum, Bartlett also published in local journals during his all too brief tenure. An all-round naturalist, he published articles on mammals, birds, reptiles, amphibians, fish and butterflies. His most important herpetological contribution was a 24-page account of the crocodiles and lizards of Borneo that were represented in the Sarawak Museum, including the description of seven new species of lizards (Bartlett 1895e; see Appendix 1).

Less well known is the fact that Bartlett also wrote a rather long series of papers in the "Sarawak Gazette", the monthly official gazette for the staff of the Sarawak Civil Service (many of whom generously donated specimens to the Museum), on turtles and tortoises (Bartlett 1894a, 1895a, 1895b, 1896b), amphibians (Bartlett 1894b) and snakes (Bartlett 1895c, 1895d, 1896a, 1896c). These were in the checklist format, annotated with locality records, sometimes with brief descriptions and natural

history trivia, and are important in being the first for Borneo that were primarily based on voucher specimens (Table 1). The geographical coverage was all of the island of Borneo, including the then Dutch-portion which is now Kalimantan of Indonesia, although Bartlett presumably examined specimens only from Sarawak.

While Bartlett published nearly all of his herpetological writings in the Gazette, these were reprinted in a self-edited book (Bartlett 1896d). Subsequent workers have cited both the primary literature (e.g., De Rooij 1915: 289, 292, 326) and the reprint (e.g., Brown & Alcalá 1994, Das 1998: 6, Inger 1966: 386, Wallach & Bauer 1997).

Three turtle species were described in his checklists in the Gazette. *Hardella baileyi* Bartlett (1895b) was promptly synonymised under *Orlitia borneensis* Gray, 1873 by Boulenger (1895) (current names listed in Appendix 1). Nonetheless, Bartlett continued to maintain the validity of his new species and even established a new genus, *Brookeia* Bartlett, 1896d, for it. Subsequent workers (including De Rooij 1915: 292) continued to treat *Hardella baileyi* Bartlett, 1895b as synonymous with *Orlitia borneensis* Gray, 1873. The second species, *Kachuga brookei* Bartlett (1895a) was synonymised under *Callagur borneoensis* (Schlegel & Müller 1844) by De Rooij (1915:289), and the third, *Trionyx pecki* Bartlett (1895a) under *Dogania subplana* (Geoffroy Saint-Hillaire 1809) by De Rooij (1915:326).

Table 1. Numbers of herpetological species listed in the checklists of Edward Bartlett and the number of species known at present to exist on the island of Borneo and on smaller associated islands.

Taxon	No. in papers by Bartlett	Source	No. recognised at present	Source
Amphibians	44	Bartlett 1894b	148	Inger & Stuebing 1997, Taylor 1968
Turtles	19	Bartlett 1894a; 1894a, b	14	Lim & Das 1999
Crocodiles	2	Bartlett 1896e	3	Cox et al. 1993
Lizards	61	Bartlett 1896e	105	Das, in prep
Snakes	118	Bartlett 1895c, d, 1896a	153	Stuebing & Inger 1999

Most of Bartlett's herpetological types are in the Sarawak Museum, Kuching; others are in the Natural History Museum, London.

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Appendix 1. Status of new names proposed by Edward Bartlett.

Sauria

- Draco affinis* Bartlett, 1895. J. Str. Br. Royal Asiatic Soc. 1895(28): 80 (type locality: "Borneo", without a specific locality). Current name: *Draco affinis* Bartlett, 1895.
- Draco grandis* Bartlett, 1895. J. Str. Br. Royal Asiatic Soc. 1895(28): 83 (type locality: "Sarawak, Matang, 800 feet"). Current name: *Draco fimbriatus* Kuhl, 1820.
- Draco nigriappendiculatus* Bartlett, 1895. J. Str. Br. Royal Asiatic Soc. 1895(28): 82 (type locality: "Kuching, Sarawak"). Current name: *Draco melanopogon* Boulenger, 1887.
- Lygosoma Bampfyldei* Bartlett, 1895. J. Str. Br. Asiatic Soc. 1895(28): 96 (type locality: "Rejang River, Sarawak"). Current name: *Lygosoma bampfyldei* Bartlett, 1895.
- Lygosoma kinabaluensis* Bartlett, 1895. J. Str. Br. Royal Asiatic Soc. 1895(28): 94 (type locality: "Kina Balu, N. Borneo"). Current name: *Sphenomorphus kinabaluensis* (Bartlett, 1895).
- Mabuia saravacensis* Bartlett, 1895. J. Str. Br. Roy. Asiatic Soc. 1895(28): 94 (type localities: "Santubong and Kuching"). Current name: *Dasia grisea* (Gray, 1845).

- Mabuia rubricollis* Bartlett, 1895. J. Str. Br. Roy. Asiat. Soc. 1895(28): 89 (type locality: "Kuching"). Current name: *Mabuya rugifera* (Stoliczka, 1870).

Chelonii

- Hardella baileyi* Bartlett, 1895b. Sarawak Gazette 25: 83 (type locality: "Ulu of the Batang Lupar"). Current name: *Orlitia borneensis* Gray, 1873.
- Kachuga brookei* Bartlett, 1895a. Sarawak Gazette 25: 29 (type locality: unspecified and presumably from Sarawak). Current name: *Callagur borneoensis* (Schlegel & Müller, 1844).
- Trionyx pecki* Bartlett, 1895a. Sarawak Gazette 25: 30 (type locality: unspecified and presumably from Sarawak). Current name: *Dogania subplana* (Geoffroy Saint-Hillaire, 1809).

ABOUT THE COVER

Encyclopædia Londinensis (1796-1829) and *A genuine and universal System of Natural History*, vol. 12 (1809 or 1810) - two little known contributions in the history of herpetology.

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The lizard depicted on this issue's front cover was described by Linnaeus (1707-1778) in the 10th edition of *Systema Naturæ* (1758:199-200) giving it the name *Draco volans*, literally "the flying dragon". Its habitat, terra typica, he said is in "India, Africa" and emphasized in a footnote that all the other dragons listed by authors are anecdotal. The capability for a lizard to fly, or at least glide from one tree to another, must have fascinated the Europeans when they came to South East Asia and it had been described at least a century before Linnaeus did it here.

Linnaeus (1758) refers to Jacobus Bontius (1658) who featured "Lacertus volans" in *Historiae naturalis & medicae Indiae Orientalis*, p. 59 (not 57 as given by Linnaeus). Bontius was a Dutch medical doctor who resided in Batavia (now Jakarta) in Java for many years.

Half a century earlier, however, Edward Topsell (1608), p. 161 said that Europeans have just heard of the dragons but had never seen them alive. But the kinds of dragon he mentioned and depicted are fictitious and indeed different animals from the flying dragon illustrated on the cover. The origin to the mythical animals could nevertheless be the true lizard. It may be not just incidental that one of the beasts Topsell illustrates has six ribs that support the membranes that make the wings.

Draco as we know the creature is also depicted by Oligeri Jacobæi (1650-1701) in *De ranis et lacertis observationes* (1686), a tiny book of

144 pages with four plates, the last showing a true flying dragon. I can not find any citation in the text to the lizard.

John Ray (1627-1705) was a forerunner and an inspirer to Linnaeus in setting up a system for animal classification. Ray (1693) described a flying dragon in his *Synopsis Methodica Animalium Quadrupedum et Serpentine Generis*, p. 275 employing the name *Lacerta volans Indica* and also The Flying Indian Lizzard.

Linnaeus described *Lacerta volans* initially in the first edition of *Systema naturae* (1735). But he was well aware of the existence of fabricated specimens. In the Order "Paradoxa" Linnaeus says that "Draco [dragon] with an eel-like body, two feet and two wings like a bat is *Lacerta alata* or a Ray artificially shaped and dried as a monster". In the sixth edition of *Systema naturae* (1748) (the third authored by Linnaeus) he has elevated *Draco* to a genus alongside the genera *Lacerta*, *Rana* and *Testudo* in the order "Reptilia" of the third Class, "Amphibia". This is the first illustrated edition of *Systema naturae* and *Draco* is depicted (Fig. 1).

Draco is now a genus in the family Agamidae occurring in Southeast Asia, parts of China and southern India. Inger (1983) and Musters (1983) both recognized 15 species but their taxonomic opinions diverged slightly thus only 13 names were accepted by both.

The reproduced plate on the cover is originally from *Encyclopædia Londinensis*, or *Universal*

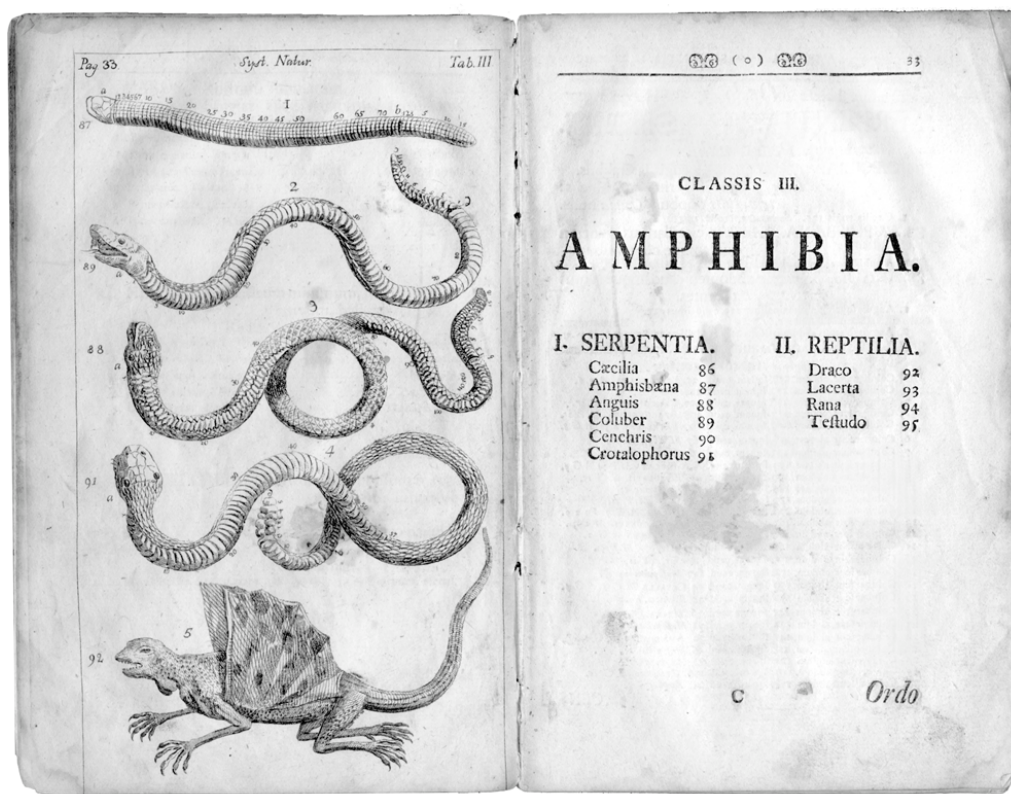


Fig. 1. Caroli Linnæi. Systema naturæ... Editio sexta [6th edition]. Stockholm, 1748, p. 36-37. Linnaeus devised the Class III Amphibia in two Orders Serpentina and Reptilia. Linnaeus considered the Flying lizard so peculiar that he placed it as the separate genus, Draco with only one species, Lacerta volans.

Dictionary, &c., &c. Compiled, digested and arranged by John Wilkes, of Midland House, in the County of Sussex, Esquire; assisted by eminent scholars of the English, Scotch and Irish Universities (hereafter referred as *Encycl. Lond.*). It was issued in weekly parts, the first appearing in September 1796 and then continued to 1829 with the last numbered 1,678, forming 24 quarto volumes illustrated with numerous hand-colored plates. A complete copy is listed in British Museum (Natural History) Library Catalogue under Wilkes (John) (d. 1811). *Encycl. Lond.* is quite comprehensive but it contains nearly or quite the whole of Johann Georg Gmelin's (1789) edition of *Systema naturae* (Cassin 1867).

The captions on the plate read "DORIS, DRACO, AND DRACONTIUM", "1. The Doris Argo, or Sea lemon. 2. Under part of the same. 3. The

Draco Volans or flying Dragon upon the Dracontium foetidum or Scunkweed." and "London. Published as the Act directs. July 30, 1803, by J. Wilkes". It is a copper engraving with an image size 194mm x 250mm, and the paper size is 230mm x 280mm. The illustrations were like in most encyclopedias plagiarized from other sources. The theme of the picture with a spider hanging down from above and the plant figure itself are taken from Mark Catesby's (1729-1747) *The Natural History of Carolina, Florida, and the Bahama Islands*, volume II, plate 71. Catesby's plate however depicts a North American tree frog, *Hyla cinerea* (Schneider), on a "Skunk Cabbage", *Symplocarpus foetidus* (L.) Nutt, a North American plant of the family Araceae (Fig. 2). The artist of the plate in *Encycl. Lond.* has added the sea lemons or cucumbers to the picture.

Catesby's *The Natural History of Carolina...* is a magnificent one-man accomplishment of the eighteenth century in natural history. Catesby (1682 or 1683-1749) was an Englishman who went to Virginia in America for the first time in 1712 to study the flora of the New World and remained there for five years. He made a second trip to America 1722 sponsored by e.g. Sir Hans Sloane and Charles Dubois, treasurer of the East India Company, in the hope of returns of plants and seeds, to make observations and drawings for the book he was planning. He returned to England in 1726. Catesby was lacking the capital to pay other people and had to produce the copper engravings and apply the hand coloring himself. His magnum opus when

finished contained 220 plates (30 are herpetological) of extraordinary artistic composition and brilliancy and informative accompanying text.

About the same time as *Encycl. Lond.* begun appeared a natural history series in octavo based partly on *Encycl. Lond.* and taking many of the illustrations from it. The title reads: *A genuine and universal System of Natural History; comprising the three Kingdoms of Animals, Vegetables, and Minerals, arranged under their respective Classes, Orders, Genera, and Species, by the late Sir Charles Linnæus, Professor of Physic and Botany in the University of Upsal, and President of the Royal Academy at Stockholm; improved, corrected, and enlarged by J. Frid. Gmelin, M. D. Professor of Natural History in the Royal Society of Gottingen.*

There are no authors or editors stated other than "Methodically incorporated and arranged by the EDITORS of the Encyclopædia Londinensis.

Behind this work was Ebenezar Sibly (d. 1800), mostly heard of as an astrologer. John Wilkes (d. 1811) continued the series from volume four after Sibly's death. The series was issued in 14 volumes, dated only on the plates. British Museum (N.H.) Library Catalogue gives the period of publication as 1794-1810. There are 415 hand-colored plates, in octavo or folding quarto. Volume 12 is devoted entirely to the Class Amphibia, divided into "amphibious reptiles" and "amphibious serpents". The text part consists of 735 pages. Seventeen of the 21 plates are in folded quarto and presumably all of them taken from

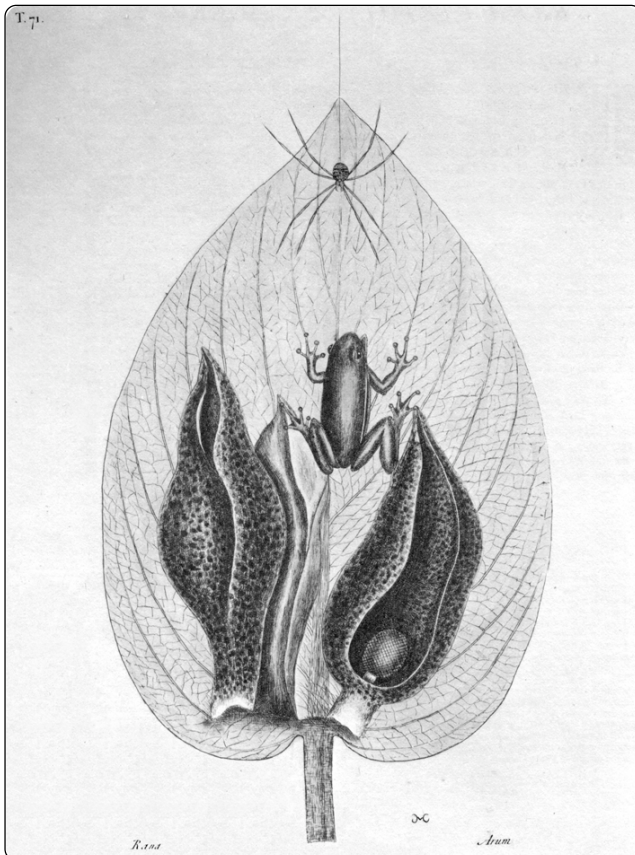


Fig. 2. Tree Frog on Skunk Cabbage by Mark Catesby in *The Natural History of Carolina, Florida, and the Bahama Islands*, 1st edition 1729-47. The Artist of the plate in *Encyclopædia Londinensis* (this issue's frontispiece) has taken the theme from Catesby but exchanged the frog with a flying dragon.

Encycl. Lond. and the remaining four engraved expressly for this work. The plates are dated from July 1794 to August 1809.

The plates from *Encycl. Lond.* occasionally appear on the antiquarian market. Several years ago I found in New York a bound suite of 21 hand-colored plates of ophidian or at least serpent-like animals. A similar set also without text was listed in 1978 (Catalogue 142) by Wheldon & Wesley, a natural history antiquarian book dealer in England. The latter set is now in the library of Craig Adler. It has 20 plates with the majority being the same as in my collection and both sets constitute plates only from *Encycl. Lond.*

Table 1 is the result of a collation of the plates in the two sets of plates from *Encycl. Lond.* and four copies of the book *A genuine and universal System of Natural History*... as well as the plate of *Draco volans*. One of the books contains plain plates and three have colored plates and one book is missing two plates but are otherwise identical. The plate "Boa Constrictor" appears as a variant (the head is pointing in a different direction) in one of the *Encycl. Lond.* sets. Thirty plates with herpetological themes can be identified but one can deem that *Encycl. Lond.* contains more plates with amphibians and reptiles than included in this table. Of the available plates is the earliest dated 15 July 1794 and the last "1818", a nine-year leap from the last by one which is dated 14 August 1809. The plates that were published in the relative short period October 1801 to February 1802 are numbered in roman typescript 1 to 16 with plate 4 not available in any of the sets. The date order is approximately that of the plate numbers. The other plates bear no number or just "I" or "II".

The majority of the plates are copied from Albert Seba's *Locupletissimi rerum naturalium thesauri accurata descriptio, et iconibus artificiosissimis expressio*..., 1734-1765 (Amsterdam) with due acknowledgments in the bottom left corners.

My thanks are directed to Anthony Swann, Director of Wheldon & Wesley for his help with archive research and to Craig Adler for providing information from his copies of the books and plate set used in the collation. Thomas Madsen and Björn Lardner helped with attributing the plates to species and Ralph Tramontano commented the manuscript and reviewed the English.

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Table 1. Summary from a collation of four copies of *A genuine and universal system of Natural History...* (vol. 12) produced by John Wilkes (1809 or 10) and various plates from *Encyclopædia Londinensis...* (1796-1829) mostly contained in two bound sets with herpetological plates only. The plates are placed in chronological order (one has no date). The format for the dates follow nearly those of the text on the plates. Attempts have been made to attribute the depicted animals to modern nomenclature. All plates that are in quarto (4to) except two ("RANA; Aug 14. 1809" and "DORIS, DRACO, AND DRACONTIUM; July 30. 1803") appear in one or both of the two available sets of "serpent" plates from *Encyclopædia Londinensis*.

Plate description	Date of plate	No.	Format	Adjacent page no. in "A genuine..."	Modern nomenclature
The Cayman Crocodile and Amphisbæna Viper.	(No date)	-	8vo	235	<i>Paleosuchus palpebrosus</i> <i>Micrurus</i> sp.
THE AQUATIC VIPER.	July, 15, 1794	-	8vo	681	<i>Agkistrodon piscivorus</i> ?
The Monitor Lizard.	Dec. 21st 1795	-	8vo	242	<i>Varanus</i> sp.? (juvenile)
AMPHISBÆNA. 1. The Fuliginosa and 2. Alba Serpents.	13th August 1796	-	4to	718	1. <i>Amphisbæna fuliginosa</i> 2. <i>Amphisbæna alba</i> ?
The African Land Tortoise.	March 1, 1799	-	8vo	103	<i>Geochelone pardalis</i>
BOA. The Boa Constrictor. (variant plate Jan. 11. 1800)	Sept. 5. 1800	II	4to	433	<i>Boa constrictor</i>
BOA. The Canina, or Green Boa.	Feb. 10. 1801	I	4to	427	<i>Corallus caninus</i>
ANGUIS. The Jaculus, or rediculated Dart Snake of Ceylon.	Feb. 21. 1801	I	4to	696	<i>Chrysopelea</i> sp.
ANGUIS. 1. The horned Snake. 2. The tessellated Snake. 3. The great annulated Snake of Surinam.	March 16. 1801	II	4to	698	1. ? 2. ? 3. <i>Helicops angulata</i> ?
COLUBER. The Horned Viper.	June 3. 1801	II	4to	479	<i>Cerastes cerastes</i>
COLUBER. The Clotho, or Deadly Viper.	Oct. 3. 1801	I	4to	457	<i>Lachesis muta</i>
COLUBER. The Lachesis, or fatal Viper.	Oct. 7. 1801	II	4to	456	?
COLUBER. The Atropos, or Life consuming Viper.	Oct. 12. 1801	III	4to	458	?
COLUBER. 1. The Berus, or Viper of Europe. 2. The Viper of Rhedi	Oct. 23. 1801	VI	4to	488	1. ? 2. <i>Vipera ammodytes</i>
COLUBER. The Viper Bitis, and Cobra de Monil.	Nov. 4. 1801	VII	4to	523	<i>Corallus cooki</i> <i>Bungarus</i> sp.?
COLUBER. 1. The Egyptian Viper, or Adder of Africa. 2. The elegant Viper. 3. The Severus or cruel Viper.	Nov. 6. 1801	V	4to	454	1. <i>Epicrates cenchria</i> . 2. ? 3. ?
COLUBER. 1. and 2. The American Asp. male and female. 3. The Egyptian Asp.	Nov. 13. 1801	VIII	4to	526	1 and 2. <i>Storeria</i> sp.? 3. <i>Macropododon cucullatus</i>
COLUBER. 1. The Crotaline Viper. 2. The Coronated Viper.	Nov. 28. 1801	IX	4to	529	? ? (It wears a crown)

Continued on next page...

Table 1. ...continued from preceding page.

Plate description	Date of plate	No.	Format	Adjacent page no. in "A genuine..."	Modern nomenclature
COLUBER. The Cæcus, or secret Viper; and the Cobra de Capello, or Spectacle-hooded Viper.	Dec. 4. 1801	XII	4to		<i>Naja</i> sp. <i>Naja naja</i>
COLUBER. The Panama Viper.	Dec. 18. 1801	X	4to	532	?
COLUBER. 1. The Cat-like Viper. 2. The Tyger-like Viper.	Jan. 3. 1802	XIV	4to		1. <i>Coluber gemonensis?</i> (1) 2. <i>Coluber hippocrepsis?</i> (1)
COLUBER. The Natrix, or Water Viper.	Jan. 11. 1802	XI	4to		<i>Natrix natrix</i>
COLUBER. The Atrox, or Fierce Viper.	Jan. 20. 1802	XIII	4to		<i>Boiga cynodon?</i>
COLUBER. 1. The Summer-loving Viper. 2. The Pethola Viper. 3. The painted Viper.	Jan. 28. 1802	XV	4to		1. ? 2. ? 3. <i>Lampropeltis</i> sp.
COLUBER. 1. The Mycterizans, or Coach-whip Viper. 2. The Cenchoa Viper	Feb. 1. 1802	XVI	4to		1. ? 2. <i>Imantodes</i> sp.
CROTALUS. The Great Rattle Snake.	June 15. 1802	-	4to	405	<i>Crotalus horridus</i>
DORIS, DRACO, AND DRACONTIUM. 1. The Doris Argo, or Sea lemon. 2. Under part of the same. 3. The Draco Volans or flying Dragon upon the Dracontium foetidum or Scunkweed	July 30. 1803		4to		1. Echinodermata 2. Echinodermata 3. <i>Draco</i> sp. <i>Symplocarpus foetidus</i>
ACROCHORDUS, AND ACTINIA. 1. The Javan Acrochord or Warty Snake. 2 to 11 Curious Species of Actinial.	Dec. 13. 1806	-	4to		1. <i>Acrochordus javanicus</i>
RANA. Figs. 1, to 10. Evolution and Growth of the Common Frog from the Spawn to the mature Animal. 11. The paradoxical Frog in its imperfect State. 12. The same in its perfect or mature State.	Aug 14. 1809	-	4to	193	1-10. <i>Rana</i> sp. 11. <i>Pseudis paradoxa</i> 12. <i>Pseudis paradoxa</i>
MURÆNA. 1. The Common Eel. 2. The Sea Serpent. 3. The Netted Eel. 4. The Siren.	1818	-	4to		1. Fish 2. Fish? 3. Fish 4. <i>Siren lacertina</i>

(1) The snake's supraoculars and prefrontals form a coat of arms.

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12. Amphibious Animals, 21 hand-coloured plates. 1809
13. Of Insects, 35 (of 36) hand-coloured plates. 1809
14. Of Vegetables, 19 hand-coloured plates. 1810
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BOOK REVIEW

Finding Order in Nature: The Naturalist tradition from Linnaeus to E. O. Wilson. By Paul Lawrence Farber, 2000. Johns Hopkins University Press, Baltimore, xii, 136 (4) pp. (ISBN: 0-8018-6389-9) \$29.95.

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As a history of natural history over the last two hundred and fifty years, this book necessarily deals with some topics and people involved in the history of herpetology. Since the approach to the history of natural history in this book is different than other histories I have read, I found some of the author's interpretations quite interesting and refreshing, while I disagreed with some of his other interpretations.

In the introduction the author suggests the science of natural history began in the eighteenth century with "the attempt of naturalists to group animals, plants, and minerals according to shared underlying features and to use rational, systematic methods to bring order to the otherwise overwhelming variation found in nature." However, by beginning this history with Linnaeus and Buffon the author seems to negate the contributions of earlier systematists (e.g. John Ray) as well as naturalists that were concerned with other aspects of nature (e.g. M. S. Merian, Mark Catesby, A. J. Roesel von Rosenhof). Nonetheless, his definition is used to set a starting point for his history.

The nine chapters in this book are: 1) Collecting, classifying, and interpreting nature: Linnaeus and Buffon, 1735-1788; 2) New specimens: transforming natural history in to a scientific discipline, 1760-1840; 3) Comparing structure: the key to the order of nature, 1789-1848; 4) New tools and standard practices, 1840-1859; 5) Darwin's synthesis: the theory of evolution, 1830-1882; 6) Studying function: an alternative vision for the science of life, 1809-1900; 7) Victorian fascination: The golden age of natural history, 1880-1900; 8) New synthesis: the

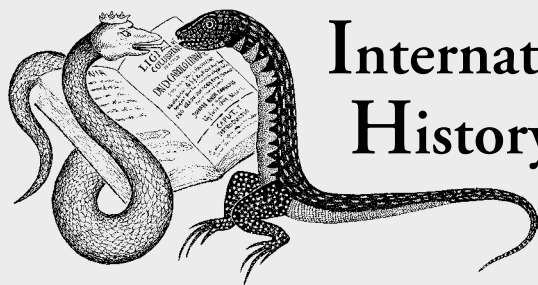
modern theory of evolution, 1900-1950; 9) The naturalist as generalist: E.O. Wilson, 1950-1994.

Starting with the contributions of Linnaeus (classification) and Buffon (life history, anatomy, ecology, etc.) the author presents a history in which natural history grew from a hobby to science with several subdisciplines. Several individuals are mentioned who are also of interest to the history of herpetology and short biographies are presented for most of them.

A list of suggested reading is presented, but I think it is quite telling that the book lacks a literature cited section. Although I enjoyed the author's perspective, I felt this book read more like a literary analysis than a history. The author freely makes associations between people and suggests what they were thinking, without offering any references to support his suppositions. As a result it is difficult to believe that the book was written with much authority.

In the last chapter, the author suggests that E.O. Wilson has completed the circle of history, by combining different subdisciplines of biology (natural history) to take a more complete view of organisms. Unfortunately, I felt this chapter was written with far too much praise, bordering on worship, and thus the message was diluted.

Overall, I would have to say that this history of natural history is worth reading. Many of the author's ideas are interesting and the biographies discuss aspects of lives that I have not seen in some other histories. However, whether this book is an accurate history or merely historical fiction, I cannot really say.



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